Notes on the Quarterly Analytic Review Meeting March 31, 1998
April 8, 1998

A list of attendees was prepared.

Opening Comments were offered by Richard Moorer. He commented that it was important that all analysts supporting OTT be "on the same page". Similarly, the Office needs consistent metrics. Richard also commented that OTT has very strong analytical capabilities.

Follow-up Items from November Meeting:

Phil Patterson's presentation began with follow-up items from the November 1997 Quarterly Review Meeting. Phil addressed comments by Tom Gross (at the November 1997 meeting) that encouraged a review of the OTT program goal or metrics. Of principal concern was the fact that the Quality Metrics 99 results did not show the U.S. "turning the corner", or actually reducing petroleum consumption. Analysis of the QM-99 results presented by Phil indicated that substitution was a greater contributor to petroleum use reduction than efficiency. He also showed results of market penetrations of high efficiency light vehicles.

HEV Cost Model:

The next item addressed was the HEV Cost model. Phil Patterson indicated that the model is being developed by ANL and that it is a spreadsheet model. Preliminary results also were presented. The model presents costs as a function of production level. Phil mentioned that K.G. Duleep had recently completed a trip to Japan to meet with Toyota representatives to discuss the cost to produce the new Prius HEV. A briefing to OTT is expected in two weeks. Phil also presented hybrid incremental cost estimates for the QM 99 and ANL Model.

Light Truck Sales:

The next item addressed was a historical record of light truck sales as a percent of all LV sales. The data shown by Patterson indicated that truck sales have changed from 19% to 48% for the first two months of 1998.

Consumer Diesel Preferences:

The next item discussed was results from a recent consumer survey on various attitudes toward car purchases and expectations. Based on the February 1998 survey and a previous one (July 1997), Phil noted that a much larger portion of those surveyed were willing to ***consider*** a diesel than showed a real ***willingness to buy*** one. The survey data revealed that those interested in purchasing a light truck are more interested in buying a diesel than those planning a car purchase. The consumer response is not consistent with QM results which show that the car market penetration of diesels is expected to be slightly greater than that for light trucks.

Towing and Vehicle Fuel Economy:

Towing capabilities and consumer characteristics and preference results were discussed.

Aggregate results concerning the consumers' willingness to pay for "2X" and "3X" fuel economy improvements were discussed. Phil indicated that we would provide percent break-downs as follow-up.

Patterson also noted that consumer concern for vehicle fuel economy has decreased to 4% from 7% last year.

Phil expressed an interest in having follow-up meetings on the topics presented.

White Paper on VMT:

This White Paper was requested by Dan Reicher. EIA has consistently underestimated VMT growth. Lew Fulton commented that EIA has consistently over-estimated fuel prices also. OTT technologies for 2X and 3X vehicles have the greatest potential to reduce oil use compared to a variety of VMT reduction measures.

Sustainability:

Comments were offered on sources of oil imports. Phil noted that our total share of imports has increased. The effect of a world oil price on oil market transactions was observed.

Year 2050 study options were reviewed. Three world oil production level projections are being considered. Fuel prices for each of these production levels were presented. Regarding Fischer/Tropsch processing, it was noted that it causes more greenhouse gas, but ethanol and hydrogen have significant benefits.

Current year 2050 work may represent a best-case analysis. Other candidate cases will be identified for consideration in future analysis.

Energy projections suggest that air may be the second biggest oil consuming mode by 2050. Air is shown as having a 210% oil increase, compared to heavy truck at 63%.

Comments and Follow-up Items:

1. K.G. Duleep presentation expected during the week of 4/13
2. HEV cost model follow up meeting planned after we get new data from KGD.
3. Phil handed out copies of the updated consumer data book, which includes the results of the consumer survey information presented
4. Richard Moorer--VMT factors comparison showed affirmation for OTT program focus. A one page statement indicating this was suggested.
5. John Maples, re Air sector--EIA has assumed improved energy efficiency in the air sector. NASA thinks that the EIA assumptions were optimistic.
6. Rich Bechtold—Others have considered hydrogen for the air. This application for hydrogen would help to reduce the infrastructure cost penalty.

Paul McArdle--EPAct replacement fuel goals:

This presentation follows up on comments by Tom Gross from the last meeting. Four sections of the law refer to the goals: 502b, 506, 507, and 504. Section 504 addresses potential goal modification. Analyses pursuant to 502b indicated that heroic assumptions are needed to make the year 2000 and 2010 goals of 10% and 30% oil substitution respectively.

Steve Goguen commented that the effect of F/T; e.g. liquids derived from natural gas should be considered. This was discussed as a subject for joint activity between McCardle's and Goguen's program.

The report generated under Section 506 indicated that an unrealistic ramp-up is needed to meet the goals. The year 2010 goal might be attainable if the schedule were changed to 2020. Paul also mentioned that the TAFV model results do not substantiate the Section 506 Report findings. The model assumes that consumers having perfect foresight.

He noted that the ETOH renewable tax credit currently is slated to expire in 2000.

Paul presented TAFV results. Base case alternate fuel use is just over 3% in year 2010. The results reflect the following input characteristics: long run barriers are removed, economies of scale are realized, refueling infrastructures in place, and full model diversity.

Transitional barriers are so great that a $0.14 to $0.18 per gallon incentives are insignificant.

The value of CAFE credit was estimated by ORNL to be $383 for flex fuel and $650 to $700 for dedicated fuel vehicle. E85 vehicles with technological improvements for continue the renewable tax credit case. The tax credit for ffvs expires in 2004. Alternate fuels mandate case assumes 30% of fuel sales required by fiat.

Tien Nguyen--Feedstocks

Tien showed a production projection from available resources.

The results are` based on AEO 96 energy projections. Nine billion gallons of ethanol are available by 2025. The analysis assumed limited subsidy effects. Status comments included the following:

- bagasse and msw are being commercialized,
- feasibility studies are under way for rice, straw, forestry residues and corn fibre,
- R&D continues for biomass crops, though tree crops are being reviewed with respect to competition with pulp and paper industry demands.

Steve Goguen--Diesels:

Steve provided a program overview briefing. Program assumptions show light trucks growing to more than 50% of light vehicle VMT of light vehicles. Alternate fuel engines for various truck classes have been developed and certified, but manufacturers don't see a market. Steve noted that OIT has recently eliminated the **Refinery of the Future** program. Feedstock diversity is a key consideration of the OHVT program. A key program element is to develop a significant data base on performance (efficiency), emissions, and durability.

Steve commented that vehicles using reduced sulphur fuel in California experienced seal leakage. A project is planned for this summer to test F/T diesel on old diesel engines. Results are to be presented at the fall **SAE Fuels and Lubricants** meeting.

Industry personnel have commented that the maximum blending limit they are willing to accept is 20%.

A Memorandum of Understanding with the Fossil Energy program is being developed (gas to liquids and coal to liquids Offices).